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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/814,584	03/22/2001	Reed Gleason	KLR:1016.080	5474

7590

03/24/2004

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EXAMINER

CHANG, RICK KILTAE

ART UNIT

PAPER NUMBER

3729

DATE MAILED: 03/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/814,584

Applicant(s)

GLEASON ET AL

Examiner

Rick K. Chang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-30 is/are pending in the application.
- 4a) Of the above claim(s) that are not listed in item 6 below is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-4, 7-14, 17, 19, 20, 23-26 and 28-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2-4, 8-9, 13-14, 17, 19-20, 23-24, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schreiber et al (US 5,326,412) in view of Toda et al (US 5,367,165).

Schreiber discloses in Fig. 2 a stainless steel substrate (22) with dimples 24 and 26 created using a punch; depositing and patterning with materials in Fig. 5; removing the substrate (22); 28 forms the opening as described in claims 17 and 19; 36 is nickel and electroplating layers; Fig. 5 shows flat surface incline; . It is inherent and evident that the punch used to form 24 and 26 is harder than the substrate and has a shaping portion with inclined sidewalls.

Schreiber fails to disclose creating a substantially asymmetrical recess.

Toda discloses creating a substantially asymmetrical recess (36).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Schreiber by creating a substantially asymmetrical recess, as taught by Toda, for the purpose of creating a sharp point to enhance electrical communication by penetrating through foreign material formed on a sample or device.

3. Claims 7 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schreiber et al (US 5,326,412)/Toda et al (US 5,367,165) as applied to claims 2-4, 8-9, 13-14, 17, 19-20, 23-24, and 26 above, and further in view of Suzuki et al (US 6,351,885).

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Schreiber/Toda fail to disclose providing a beam and a bump, a tail and a head with the tail thinner than the head, and a vertical stop to the tool.

Suzuki discloses providing a beam (last tip to the right in Fig. 11A) and a bump (second to last tip to the right in Fig. 11A), a tail (last tip to the left in Fig. 11A) and a head (one next to the last tip to the left in Fig. 11A) with the tail thinner than the head, and a vertical stop to the tool (16) thereby forming depressions to an exact depth with desired shapes.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Schreiber/Toda by providing a vertical stop to the tool, as taught by Suzuki, for the purpose of forming depressions to an exact depth with desired shapes.

4. Claims 25 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schreiber et al (US 5,326,412)/Toda et al (US 5,367,165) as applied to claims 2-4, 8-9, 13-14, 17, 19-20, 23-24, and 26 above, and further in view of Bhatt et al (US 6,268,016).

Schreiber/Toda fail to disclose planarizing the conductive material and polishing the substrate.

Bhatt discloses planarizing the conductive material (col. 7, line 65) and polishing the substrate (col. 6, lines 5-6) thereby providing a non-warped surface for subsequent deposition of material.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Schreiber/Toda by planarizing the conductive material and polishing the substrate, as taught by Bhatt, for the purpose of providing a non-warped surface for subsequent deposition of material.

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5. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schreiber et al (US 5,326,412)/Toda et al (US 5,367,165) as applied to claims 2-4, 8-9, 13-14, 17, 19-20, 23-24, and 26 above, and further in view of Nakaso et al (US 4,902,551).

Schreiber/Toda fail to disclose roughening the conductive material.

Nakaso discloses roughening the conductive material thereby increasing adherence between two dissimilar materials.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Schreiber/Toda by roughening the conductive material, as taught by Nakaso, for the purpose of increasing adherence between two dissimilar materials.

6. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schreiber et al (US 5,326,412)/Toda et al (US 5,367,165) as applied to claims 2-4, 8-9, 13-14, 17, 19-20, 23-24, and 26 above, and further in view of Yoshizawa et al (US 5,145,552).

Schreiber/Toda fail to disclose forming crystal grain inclined surface.

Yoshizawa discloses forming crystal grain inclined surface (col. 10, lines 48-61) thereby increasing adhesion between two surfaces.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Schreiber/Toda by forming crystal grain inclined surface, as taught by Yoshizawa, for the purpose of increasing adhesion between two surfaces.

Response to Arguments

7. Applicant's arguments with respect to claims as noted above have been considered but are moot in view of the new ground(s) of rejection.

Interviews After Final

8. Applicant note that an interview after a final rejection must be submitted briefly in writing the intended purpose and content of the interview (the agenda of the interview must be in writing). Upon review of the agenda, the Examiner may grant the interview if the examiner is convinced that disposal or clarification for appeal may be accomplished with only nominal further consideration. Interviews merely to restate arguments of record or to discuss new limitations will be denied. See MPEP 714.13 and 713.09.

Conclusion

9. Please provide reference numerals (either in parentheses next to the claimed limitation or in a table format with one column listing the claimed limitation and another column listing corresponding reference numerals in the remark section of the response to the Office Action) to all the claimed limitations as well as support in the disclosure for better clarity. Applicants are duly reminded that a full and proper response to this Office Action that includes any amendment to the claims and specification of the application as originally filed requires that the applicant point out the support for any amendment made to the disclosure, including the claims. See 37 CFR 1.111 and MPEP 2163.06.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

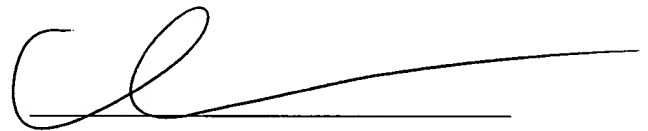
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rick K. Chang whose telephone number is (703) 308-4784. The examiner can normally be reached on 5:30 AM to 1:30 PM, Monday through Thursday.

The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9303 for After Final communications.

A handwritten signature in black ink, appearing to be 'Richard Chang', written over a horizontal line.

**RICHARD CHANG
PRIMARY EXAMINER**

RC
March 18, 2004